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ELECTRIC RAILWAY ACCOUNTING

*THE MONTHLY REPORT, THE ACCOUNTING
DEPARTMENT, AND THE ACCOUNTANT*

BY

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EXPLANATION.

As a beginning, it seems best to explain the result desired to be reached by this little book and the conditions which have brought it about.

The subject of accounting is very large; it is the beginning and the result of all effort wherein money or its equivalent forms a part. It follows, therefore, that such a comprehensive subject must be treated in its different lines of action, that is, specialized.

Many works have considered the accounting of street (or more properly now, electric), railways, but always from a standpoint outside the actual operation of such work. It is hoped here to show the subject in a somewhat more intimate light.

The subject, even though limited to electric railways, is so large and all parts of it are so important to the result, that it has been difficult to fix limits within which the discussion could be kept and still be broad enough to make a discussion anywhere near complete.

It is also well to explain that the author has not intended to convey the impression that the subject is treated in all its bearings. Each subject treated is capable of much enlargement and elucidation, and it could properly be carried to greater length. But an effort has been made to keep within well defined bounds and yet provide a basis for a better understanding of a part of electric railway accounting. His work is simply a brief consideration of the text provided by the title.

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ELECTRIC RAILWAY ACCOUNTING.

CHAPTER I.

WHAT A REPORT SHOULD BE.

SPEAKING broadly, and by way of illustration, the monthly report of an electric railway may be likened to a guide-post pointing the way, and like a touring club road-sign it gives warning of what is to come.

The term report is another way of conveying to the mind "a statement or realization of facts given as the result of inquiry by persons authorized to examine," that is, a financial report transposes things that have transpired and describes them in terms of figures. The monthly report of an electric railway covers such a diverse activity of a large number of persons that it is impossible to give a proper explanation of the transactions of the company except by the use of figures.

It should be borne in mind that the management can render no decision nor make any move without in some way affecting either the income or the expenses, or both, of the company. Therefore, every effort put forward to gain income, every car put on or taken off, and practically every move of whatever nature which seems to the management to be proper, must of necessity be reflected in the monthly report.

This being accepted as a fact, it becomes of prime importance that the actions and accomplishments of the company shall be shown in the report with exceeding care and accuracy, that those persons who are responsible, on account of the position they occupy, for the policy which has guided the activity displayed during the period covered by the report, shall thor-

oughly understand what they have accomplished. The report accurately made and carefully studied will always disclose symptoms of good policy or poor judgment, and it is for this reason that the report is likened to a guide post pointing the way. A monthly report, coming as it does periodically through the year, provides a basis for frequent changes in policy and makes it more probable that the company will be better managed than would be possible if the reports were for a longer period.

In its composition, the monthly report should contain in detail the income, the expenses, the accounting operating statistics, and the financial condition. Nothing should be omitted from it that can in any way be of value to a proper understanding of the situation. With the above as a basis, the amount of work necessary to obtain this proper detail should be of minor importance, for the value of the information contained in the report permits a grasp of the situation so thorough that it cannot be overestimated.

It is coming to be realized more and more, that any policy which restricts the accounting department in help and expenditure is a mistake, because the information it can furnish under intelligent administration is as necessary to the modern operation of an electric railway as the knowledge of symptoms are to a physician in the diagnosis and treatment of human ills.

At this point it seems best to explain that there should be two forms of monthly report, one giving the totals of income, expenses, fixed charges, and surplus, which can be circulated with as much liberality as the policy of the company permits. But in addition to this, there should be compiled a complete detailed statistical report which should be for the use of the management only, as it should contain the most confidential statement of the operation of the company. It is this latter report that will be discussed in these pages.

From the standpoint of disclosing symptoms and permitting the management to change its policy along the lines pointed

out by the results shown, it becomes extremely important that the monthly report should be issued promptly as well as intelligently.

The practice pursued by the steam railroads of not issuing nor expecting the monthly report of a given month until at least the 25th of the succeeding month should be discouraged among electric railroads, and by carefully planning the work of the accounting department, there seems to be no good reason why the report should not be issued within the first ten days of the succeeding month. Even when the electric railroad is combined with an electric lighting company, it is still possible that the report of the combined property can be issued by this date.

For the intelligent understanding of a report, the first page should contain in few terms the summary of the month's operation, so that the official who is interested only in the results may obtain these salient facts quickly without searching through the whole report for them. This first page should contain the results shown by all the subsequent pages. In other words, the whole story in totals should be gathered together on one page. Then, for the official who desired to go further into causes and effects, the pages following should contain the income account in detail, the operating expenses in detail, the accounting statistics, and finally the balance sheet. In another chapter will be found a suggested form of report which will illustrate this plan of the summary first and the detail after.

It should not be understood that the form of monthly report suggested is the only information required for a proper report of a company's accomplishments. There is as much more necessary from the operating department. The tabulating of the work of the shops, the line, the track, the transportation, the power, the claim and other departments is as necessary to the manager, but the subject here considered is restricted to the accounting. That is, what it has cost to

move the several and diverse departments and what they have collectively brought in for the common good—the stockholders. But by transposing the cost figures into the activities that caused the cost, the management is enabled to get an approximate idea of the work done and the method of doing it.

The monthly report differs from the annual report in many essential ways. The two have everything in common, but for the purposes of the use to which they are put, they must be somewhat differently arranged, and each should contain information particular to itself. When properly made and covering in full detail everything relating to its month, the monthly report permits changes or corroborates matters so that when the annual report is reached, that report only summarizes in grand totals the influences of the monthly reports that have preceded it.

The annual report of a company is, on account of its semi-public character, the most important document issued by the company. While the monthly report occupies the position of a guide-post pointing the way for future management, and at the same time a story of the accomplishments of the company for short periods, the annual report becomes an historical document of an entire administration. And as the officers are elected annually, the annual report thus becomes an expression of the administration, showing its ability or its weaknesses.

The annual report is referred to as semi-public for the reason that by its presentation to the stockholders, it is placed in the hands of the public for such interpretation as the public may give it.

The customary submission of a report by the president to the board of directors, and by the directors to the stockholders, may, in a measure, be considered a defense or explanation of the actions of the administration which is about to retire or be reelected, as the case may be. The action of the

stockholders in reëlecting or not is frequently governed by the report made by the administration whose term is about to expire.

Thus, the annual report takes a different place from that occupied by the monthly report, and as it is issued annually it should contain much information not contained in the monthly report. On the other hand, on account of its semi-public character, it may properly not contain all of the information considered as of essential importance in an operating monthly report.

It is not intended to convey the impression that secrecy should be practiced, but that by the different use to which it is put the annual report need not necessarily be so detailed in its composition and yet fulfill its purpose. For instance, the information relating to the organization, the track mileage, the equipment, the changes in the funded and other debt, and the assets, and the information relating to the physical condition of the property, should all be treated and compared with the previous year, and the changes in a year's work should be pointed out and explained. All this, on account of its monthly repetition, may be considered unnecessary for a monthly report, although of importance in an annual report. And for the reasons already explained, the extended details of income and operating may safely be omitted from the annual report and the results given in totals.

Accompanying the annual report should be a certificate from some responsible public auditor explaining how far and wherein the accounts are correct. An additional discussion of the value and the scope of this certificate will be found in another chapter.

There are reasons why the fiscal year of a company which governs the date of the annual report should date from the day of organization, but it seems to the writer there are more reasons why the date selected for the fiscal year should be the calendar year. This does not lose sight of the fiscal year of

the United States Government which ends at June 30, but it makes clearer in the mind of the public that a report spoken of as a certain year, contains the calendar year and not part of one and part of another calendar year.

The annual report should disclose the condition of the company in a very true and accurate manner. The ledger accounts should be thoroughly cleansed, before this report is issued, of all the fungus and extraordinary matters that are continually creeping into the accounts. Therefore, this report should disclose the results obtained after such adjustments.

CHAPTER II.

A SUGGESTED FORM OF MONTHLY REPORT.

In composition the report should be planned to be easily handled and logically arranged. For instance, the idea of having the form printed on one large sheet of paper, with the information placed upon one or both sides and each table fitted in wherever it will go regardless of context, is a form that should be abandoned. In the first place it is confusing, and when an attempt is made to give the information in proper detail, the figures must of necessity be so small that they add to the confusion.

Accurate information, like everything else, moves along the line of least resistance, so the figures should be so arranged that the greatest information may be obtained with the greatest ease, that is, the least effort. Experience to the present time has shown that a monthly report in pamphlet form, with pages about 12×15 inches in size and containing as many pages as necessary, is the easiest to handle, and permits the tables to be wide enough and long enough to allow figures that are of readable size.

As a suggestion for such a report, the following is submitted: The paper used should be of good quality linen, either white or buff, with a firm finish. This paper will stand hard usage and retain its condition. The columns should be ruled in blue, which will be found less hard on the eyes, and the type matter should be printed from type having clean, strong lines. Very few printers use judgment in the selection of type and paper, as they frequently adopt whatever type face is most convenient, and paper within the price quoted, so that care must be used that specific directions are given to them. It is

often thought, or rather from the looks of many reports it seems to be thought, that anything in the shape of composition will do if the figures are there. But this is not the case. Therefore, these few general suggestions are given here in the belief that if followed a more logical report will be obtained.

The form shown herein is not intended by any means to be the last word that can be said about the composition of a report of this character. It has been submitted for suggestive purposes only, and as such it is believed it will be of value.

Attention is also drawn to the entire absence of power house and other operating statistics. These have been omitted for the reason that this is intended to be an accounting suggestion only. In another place it is advised that because of the great quantity of valuable information the operating department should and is in a position to furnish, it would be more valuable if these data should be comprised in a separate report. It is quite possible, however, to have these data printed on pages of identical size with the accounting report and included in the same cover, thereby making a complete report of great value.

While the suggested form contains the elements from which an annual report is obtained, as evidenced by the "year to date" sections, it differs materially from such a report as explained elsewhere.

In the choice of paper, the color of ruling, and other respects, the report is constructed for use on a duplicating machine, and after the process of duplication the pages are designed to be gathered together and bound. This brings up the question of a choice of duplicating medium. The writer wishes to beg this question, as there are so many successful methods, but to call attention to one way that should not be used, which is by carbon transfer in a typewriting machine. The reason for objection to this process is that by the use of a paper thick enough to permit printing upon both sides, the number of legible copies that can be made at a time is three, and as the

FORM OF REPORT.

9

average company requires more than three copies the report must be again printed, with the attendant liability to error.

The suggested report follows :

CITY STREET RAILWAY COMPANY		
MONTH OF	190 ____	INCREASE OR DECREASE FROM LAST YEAR
GROSS EARNINGS		
OPERATING EXPENSES		
NET EARNINGS		
OTHER INCOME		
GROSS INCOME, LESS OPERATING EXPENSES		
DEDUCTIONS FROM INCOME		
NET INCOME (Surplus)		
PER CENT. OF OPERATING EX- PENSES TO GROSS EARNINGS		
PER CENT. NET INCOME TO PREFERRED STOCK		
PER CENT. BALANCE NET INCOME TO COMMON STOCK		
RAILWAY EARNINGS PER CAR MILE		
RAILWAY EARNINGS PER CAR HOUR		

Red in this report signifies decrease.

CORRECT:

AUDITOR

VICE-PRESIDENT & GENERAL MANAGER

190 ____

4

FOR THE MONTH OF

OPERATING

RAILWAY DEPARTMENT.

	OPERATING ACCOUNTS.	190	P.O.Gr. Earnings	Per Car Mile	Per Car Hr.	190	P.O.Gr. Earnings	Per Car Mile	Per Car Hr.
1	Maintenance of Track and Roadway								
2	" " Electric Line								
3	" " Buildings and Fixtures								
	TOTAL—MAINTENANCE WAY & STRUCTURES								
4	Maintenance of Steam Plant								
5	" " Electric Plant								
6	" " Cars								
7	" " Elec. Equipment of Cars								
8	" " Miscellaneous Equipm't								
9	Miscellaneous Shop Expenses								
	TOTAL—MAINTENANCE EQUIPMENT								
	TOTAL MAINTENANCE								
10	Power Plant Wages								
11	Fuel for Power								
12	Water for Power								
13	Lubricants and Waste for Power Plant								
14	Miscell. Supplies & Exp. of Power Plant								
	TOTAL—OPERATION OF POWER PLANT								
16	Superintendence of Transportation								
17	Wages of Conductors								
18	" " Motormen								
19	" " Other Car Service Employees								
20	" " Car House Employees								
21	Car Service Supplies								
22	Miscellaneous Car Service Expenses								
23	Cleaning and Sanding Track								
24	Removal of Snow and Ice								
	TOTAL—OPERATION OF CARS								
	TOTAL TRANSPORTATION								
25	Salaries of General Officers								
26	Salaries of Clerks								
27	Printing and Stationery								
28	Miscellaneous Office Expenses								
29	Store Room Expenses								
30	Stable Expenses								
31	Advertising and Attractions								
32	Miscellaneous General Expenses								
33	Damages								
34	Legal Expenses—Damages								
35	Miscellaneous Legal Expenses								
36	Rent of Land & Buildings								
38	Insurance								
	TOTAL GENERAL								
	TOTAL OPERATING EXPENSES.								

FORM OF REPORT.

[illegible]

CHAPTER III.

THE RELATION OF OPERATING EXPENSES TO EARNINGS.

WHEN a company compares its expenses to its earnings, it also obtains an approximate understanding of the capacity of the men that have been placed in active operation of that property. This statement, like all other statements which are made in general terms, has its exceptions, as the physical condition and many other conditions must be taken into consideration. The physical condition always plays a very important part in the percentage of expenses to earnings. The policy of the company, especially in the general expense items, may also frequently offset the most careful and economical handling of the transportation and maintenance part of the operation. Therefore, it cannot be considered sufficient when a property is cited as operating for 50 per cent. or less of its gross earnings; other explanations must be made before a true understanding can be gained of what the property actually has done.

The location of the lines has an important bearing upon economical operation. This is especially true after a consolidation of companies has occurred. It is a very exceptional case with two or more companies in a city if some of the lines of the different companies do not parallel each other. When they do lead into the same territory, with business enough for only one, it necessarily means that neither line, after consolidation, can be operated at its best efficiency unless the other line is removed or modified.

There is a city, not far from New York, which contains at this time, two very active companies. In the course of their rivalry, these companies have so entered each other's

territory that the city has two complete services in all districts with each maintaining a service that would suffice for the business of both. Assuming that each gets half the business, it follows that the per cent. of expense to earnings is very high with each company, as each has expense enough for all the business and gets but half of it.

The high per cent. of operating cost cannot, in this case, be wholly the fault of the physical condition, but comes about through competition, and is an example of why the operating per cent. standing by itself, is not a unit of comparison to be wholly depended upon for all purposes. It is also quite possible for one company to operate for 50 per cent. of its earnings and still not pay dividends to its stockholders. If the bonded indebtedness is large, the fixed interest upon it may absorb all that is gained by low operating cost. Another company operating for 70 per cent. may, through larger gross earnings or low capitalization, pay 10 per cent. or more to its stockholders.

Examples of both may be found in the published reports of electric railway companies.

It seems necessary to point out here that all items entering into the earnings of a company should be for actual money received or to be received. A company should not indulge the habit of including in earnings items that are offset in other accounts. For instance, a company during the period of reconstruction when charging construction account for the current consumed by the construction cars, or for the rental of construction or work cars, should not credit to earnings the amount charged to construction for the purposes above outlined. The amount charged to construction will be more accurately handled by crediting operating expenses. The earnings being the basis against which everything is compared should have their integrity preserved by being limited to the actual cash transactions of the company.

While the earnings of a company can be easily ascertained under the headings of the different routes operated, it has

been found by experience that operating expenses can be better understood and analyzed in total than when separated into as many totals as there are lines operated. This statement must not be taken to mean that no expense can or should be shown by lines, for many expenses can be thus shown definitely when necessary, but that necessity does not frequently exist. When it does, it is usually for specific reasons which are not applicable to a regular monthly report.

The first requisite in a comparison of one thing with anything else is the knowledge of what constitutes the things compared. Thus, in comparing the operating expenses of an electric railway with its earnings, it is not possible to do so intelligently without this knowledge. And, again, there must be the assurance that what has been placed either in earnings or expenses in one month is treated in the identical manner in another month, even though the amount may not be the same. Therein lies the usefulness of the comparison.

It is this need that has brought about the present standard classification of operating expense accounts.

Instances are known where certain operating accounts, through misjudgment of the operating official in ordering work done, are over heavy. In this case the practice sometimes is to distribute these extra heavy operating expenses through other analogous operating accounts in order that the account naturally affected shall not show too badly in the monthly statement. This custom is pernicious, and should be discouraged for reasons that are as plain as the statement itself. This should be guarded against by a careful analysis of the operating accounts each month. The accounting office may be required to furnish the management of the company a careful analysis of the operating accounts in such detail which will disclose the actual performances of the company as divided into the operating accounts.

The general rule can be here laid down that there can be but one need of careful comparison and analysis, and that is

that ways may be pointed out for a general betterment of methods with the attendant results. If it were only necessary to know the amount of money left over for distribution to the stockholders, it would be a simple proposition. But the desire is for as large an amount as possible for that distribution, and this requires the several methods of analysis so that the best results may be obtained by intelligent and economical operation.

With standard methods of charging expenses, that matter is settled; then come the methods of comparison. There are several of these, one of them the subject of this chapter. Its particular advantage lies in fixing the percentage of the money taken in that will be required to maintain the property in working order, and also to operate it. That is, this percentage is fixed approximately, each company for itself, but it is useful also in comparing with the practice of other companies. It should be understood that its use in comparison is always qualified by the words "all things being equal." However, experience has fixed each company's percentage pretty definitely, and to change it requires a change in either methods or administration, which is usually the same thing.

There are two ways to affect this percentage, either by increasing earnings or reducing the expenses. It will frequently be found that careful management can save in expenses by changing schedules, while not affecting the earnings. This is good management, and is shown promptly in the reduced percentage.

Percentage is a lively thing, however, and is liable to make the most surprising movements, which can only be understood by analysis.

To obtain a relation of each operating account to the whole, its percentage to the gross earnings may be shown and compared with other months. In making this comparison it should be borne in mind that unless the basis of the comparison, the gross earnings, are approximately equal, the percentage will not be the same. It will be reduced in the case of larger

earnings and increased with smaller unless its own size has changed also.

Taken as a whole, the principal advantage of this comparison is in the total, which, as a total, has absorbed the increases and decreases in the various items.

A rather better way to obtain the relation of the different operating accounts to the whole may be found in obtaining the percentage which each of the several accounts bears to the total expense. In this way the rise and fall of the gross earnings does not affect the percentage. It will be found that expenses will feel the increase in earnings only to a moderate degree, especially if the schedules are not widely varied. Thus, assuming that the amount expended for fuel in a given month has not changed very much from the previous month, and that the other operating accounts are approximately the same, the percentage which each account bears to the total operating expenses will remain about the same, even though the earnings have changed.

The expenses will not vary in the same ratio as the earnings will — or should not with careful management. Therefore, if the percentage of an operating account in one month is radically different from that in another month, while the total operating cost remains but slightly changed, there is room for examination of that account. If the percentage of operating expenses to earnings is used as a criterion, a change will not be noticed in the different accounts unless the earnings remain almost stationary, which is not so likely to be the case as with the operating expenses.

Of course, all the usual changes may be noticed by comparison of the operating cost without the percentages, and it is a question if that is not the simplest way, except that percentages will show to a finer degree than by the use of dollars and cents.

Whatever method is used, one should not lose sight of the valuable comparisons that may be gained from the combined

expenses of the year to date. This comparison will show the accomplishments of changed methods as they are getting ready to appear in the annual statement, and the need of more radical measures in order that the annual showing may not suffer, assuming that the property is not made to feel the showing.

From the above it will be seen that the percentage the total operating expense bears to the gross earnings is not the last word that may be said of the value of a property. It will only show:

(a) What percentage the property has left for fixed charges and distribution.

(b) Whether it is doing as well as or better than in the past.

(c) All things being equal, an approximation of the capacity of the management.

It will not show:

(d) Where the difference lies, if there is a difference.

(e) It will not be an honest basis for comparison with other companies, and

(f) It will not show if the property can be operated cheaper than it is being operated.

Other comparisons and examinations are needed to learn the value of a property, and it cannot be fixed without them.

CHAPTER IV.

SOME OTHER UNITS OF COMPARISON.

SINCE the beginning of time, there has been a constant search for units of comparison in all lines of human action. This is well illustrated in the saying that the value of anything is its comparative value to some other thing. There are other kinds of comparisons than value, and just as great a search has been made for them. There are comparisons of height, comparisons of speed, comparisons of usefulness, and others, all of them subdivided into classes of efficiency, purpose, and helpfulness.

The business of transportation has its own units of comparison, and each class or kind of transportation has its own and many of them, as it is further divided into distinctions of kind of service.

Electric railways are by the nature of their business but little, if at all, interested in or have use for most of the efficiency units of the steam railways, nor can either of them use those of steamboats. Thus it is that each kind of transportation must search for and test its own units.

Electric railways have lately become awake to the fact that the car mileage of horse-car days is not sufficient for present day electric operation. And it is now searching for something to which it can tie as an effective unit. The latest step to the betterment of its efficiency unit was taken when it adopted the car hour as another means of proving both value and efficiency.

Space will not permit an exhaustive discussion of the different present and possible units of comparison, but several kinds will be touched upon, and it may be that some good will come from the reference to the different kinds.

In the first place, it is doubtful if the time is near that the value and the efficiency of a company can be wholly gauged by the use of but one unit. It seems necessary that more than one will be required for some time to come. For purposes of its own, a company may use any one unit, but one only will not suffice for comparison with other companies. That is usually what is desired in a unit. It is especially true, if the operating and other conditions are not the same.

The units of the percentage of operating expenses to gross earnings, and of the percentage of the operating expense items to the total operating expenses, were considered in a previous chapter. They will show that all units cannot be used for all purposes; for instance, neither of those named provide a basis for comparing the earnings. Therefore, while there may be many units for special purposes, there are but one or two that can be used in a broad way. Of them all, the car hour at the present time comes closest to satisfaction, and it seems certain that only the most radical change in operating conditions can ever weaken its value.

In few words, the car hour is simply the hours the cars are out of the barns in service, and includes all time they are held by blockades or other causes. It is based upon the principle that but little of the operating expense can be stopped or even checked when a day has started, and that if most of the cars are blocked, the expense in large degree will be continued even though the earnings may wholly cease. And it is right that a unit should continue, because operating efficiency requires it should.

This is a point where car mileage is not equal to its test. For in a blockade the mileage ceases, the car has stopped, but the car hour (the car being away from the barn and under expense) keeps on. The car mile would protect the earnings, as the earnings have stopped with the car. But it is not so fair to the expenses, which must show a high cost per car mile, as they have not ceased for a moment even if the mileage has.

Another point in favor of the car hour is that it absorbs the difference in speed. To the car mile, a mile is a mile, and that is all there is to it — but to the car hour, if the car may be run twice as fast and earn twice as much by doubling the trips, it gains that much in earning efficiency per hour, and it should, but the car mile would show no gain from the increased speed.

No method was employed that was at all satisfactory to arrive at the average speed of a line until the car hour was used, to divide into the car miles run. This process will give the average speed, and it is good to know in comparison with the speed figured upon in the schedule. It demonstrates how closely the schedule in point of speed may be maintained as an average. Thus the car hour will place upon a sure basis all cars operated at different speeds.

A short means of checking the car hours is possible by taking the platform time allowed the motormen on the pay-rolls. This is another point wherein the car mileage unit is deficient as it is difficult to determine it with accuracy. The computation of mileage is, at the very best, uncertain. Every method used depends upon information furnished by the conductor, either upon his trip report or to the car dispatcher at the barn. Were there no blockades upon the line of route, or no necessity to switch the car back at unusual points, the mileage could then be ascertained to a fraction; but these necessities do arise constantly, and when they do, the computation of mileage depends wholly upon the accuracy of the conductor in reporting it. Experience will show that conductors do not always realize the importance of the information, and fail to make the proper report, in which case the car miles are computed at the full amount and so in error. But car mileage is arrived at approximately close to the actual, and it has much value along certain lines.

Car mileage consists of two kinds, dead mileage and revenue mileage. Revenue mileage means the miles run by cars on regular runs, ready to bring in revenue. Dead mileage is well

described by its name, that is, it consists of the miles run from and to the car house in order to arrive at its starting-place upon its regular route. This mileage is literally dead. Frequently the cars make this trip twice a day with gates closed, permitting no passengers, and so, in a sense, it is waste mileage, for if the car barns could be placed at some middle spot there would be no dead mileage, because the cars would start from their barns upon their route. But this is very seldom permissible through the cost of land and other causes; therefore, dead mileage is a necessity, and as such must be included with revenue mileage to get the total mileage to do and doing business. Many companies do not do this, and this fact permits a better showing than actually is made. But at least for operating purposes the dead mileage should be kept track of so that its cost may be computed. Frequently the cost of this dead mileage will be so large that it will be good business policy to change the location of the barns that it may be reduced to its minimum.

One of the uses of car mileage is for the demonstration of the efficiency of car equipment. Many parts of the car and electrical equipment are renewed after attaining a certain mileage, and frequently some parts are purchased with a guarantee to make a certain mileage. Hence, the mileage of each individual car should be kept, when possible, so that the equipment department may be fully advised of what is sometimes known as the performance of the car. Thus, maintenance has a use for car mileage, and custom has made its relation to earnings and expenses so familiar that it will continue as one of the units used in comparisons of street railway operation.

There may be a time when "per passenger carried" will take a more important place as a unit than it now occupies, but it is doubtful if it will reach the position occupied by "per car hour" and "per car mile." It has much in its favor as a unit, but it, like all the others, falls short of being *the* unit. It

is subject to the blockade criticism applied to the car mile as an operating unit. Its chief use is to give a figure showing with or without the inclusion of transfers what average amount is being received from each passenger moved, and also what it has cost to perform the service. Present custom leaves it at about that point.

Another unit that is subject to objection and yet has its uses is "per seating capacity," that is, the seating-room provided. This unit requires much calculation of the schedule, and can, at its best, be used only in the work known as "traffic curves," which is a plan sometimes used to show the traffic throughout a day, and in connection with it the cars provided to take care of the business. The process is shown by means of curves, and the seating capacity unit is employed to show how closely the service comes to the traffic. It can hardly be used with any satisfaction in a statement. It may be arrived at, if desired, by multiplying the number of trips of each kind of car by the seats provided in them. Rush hours will be found to offset light hours in any average to show that the capacity is sufficient, when the truth would be that either too many cars are operated in light hours, or too few in rush hours. It is this that makes the traffic curves valuable.

Another unit constantly used, but in connection with earnings only, is per capita, which shows the average earnings received from each person in the city, if an urban road, or in the district served, if suburban or interurban. It is based upon census figures in census years, but is dependent upon estimated population in other years. Statistics on population are so elusive, and depend so frequently upon optimism, that the unit is not often accurate, although approximately so.

A percentage of the estimated population, and of the actual as well, which is not easily determined, is the transient or floating population. This temporary population is usually a good patron of a railway company, and, as such, affects the

earnings without affecting the population. So that at its best this unit is far from satisfactory. It is rarely used in the statements of a company, but it is of considerable value to the investor and student of electric railways.

As a general rule, a large city has a large per capita income. But that is open to the explanation that a large city, congested and placed on a plain, will not have so large per capita earnings as another of less population but located on a peninsula where most of the population live at one end of the peninsula with their business places at the other. Hills also have a bearing, as do other features. As said above, the unit is always interesting and sometimes valuable.

Without considering some few other units of varying usefulness, we find that the idea of a general unit to be applied to all purposes is not yet attained, nor is it liable to be; that probably the most generally useful unit to-day is the car hour, with others suitable to special needs; that each unit has its value, especially when placed side by side with other units, and it may be assumed that as many as possible may be used without confusion.

CHAPTER V.

CURVES AS A MEANS OF EXPRESSION.

IN the performances and efficiency of steam and electric equipment, and in the preparation of civil engineering information, curves are always employed, but their value as applied to income and expenses and operating statistics is not so frequently recognized.

In connection with this chapter a number of suggested forms are shown to illustrate the value of curves or diagrams in quickly and intelligently grasping the changes in the operation of a property.

It should be explained that the results shown in these curves are taken from the reports of companies in active operation, and they cover the years shown. It is unnecessary, of course, to mention the names of the companies, but they are average companies, and have each attained a considerable degree of success. There is nothing exceptional about them, and the results as shown can be shown with equal lucidity by any other company.

The writer has known of an instance where an auditor made it a practice to accompany his monthly report to the board of directors with a set of curves somewhat similar to the ones illustrated herein, and the experience was that the directors formed the habit of having the curves placed before them before they asked to see the monthly report. The reason is not hard to find, because at a glance they obtained a picture of the general results before attempting to analyze the dollars and cents, as a slight raise or drop in the line is much easier to grasp, and it is also easier to carry in one's mind than is the difference in the money involved.

The method of showing results by the use of curves is known as the "graphic" method, and it would seem that this word well describes it, for it certainly does show differences and tendencies more quickly and clearly than by the mere recital of figures.

By a reference to the examples shown, it will be seen that curves may be made comparative to a very marked degree, for by the use of broken lines, and also of lines of different colors, the comparison may go on indefinitely.

The curves need not be limited to the exposition of money results only, but their use may be extended to cover car mileage, car hours, percentages, passengers carried, kilowatt hours, and numerous other matters that may be of interest. And in order to give them wide circulation and usefulness they may be made the subject of blue print reproduction, in which form they can be distributed to whomever concerned. It is true that they will not show details down to the last dollar in money, nor do they indicate the finest of distinctions in other matters, but when carefully plotted they will show results near enough to the actual to serve their purpose exceedingly well.

They may be plotted on paper having almost any kind of cross-ruling, but better results will be obtained if paper ruled ten lines to the inch is chosen, for the reason that it more easily lends itself to the decimal system, and the approximations, when necessary, will be the more accurately placed. It should also be remembered that more accuracy will be obtained if the values placed upon the different lines be not of too large denomination. General practice will probably show that a difference of five hundred per line is about as large as ordinary purposes can stand. There are occasions when this difference may successfully be increased, but experience only will show when and how.

The curves can easily be arranged on a roll long enough to contain each day of the year along the top edge, and the earnings, passengers carried, etc., along the sides. The daily re-

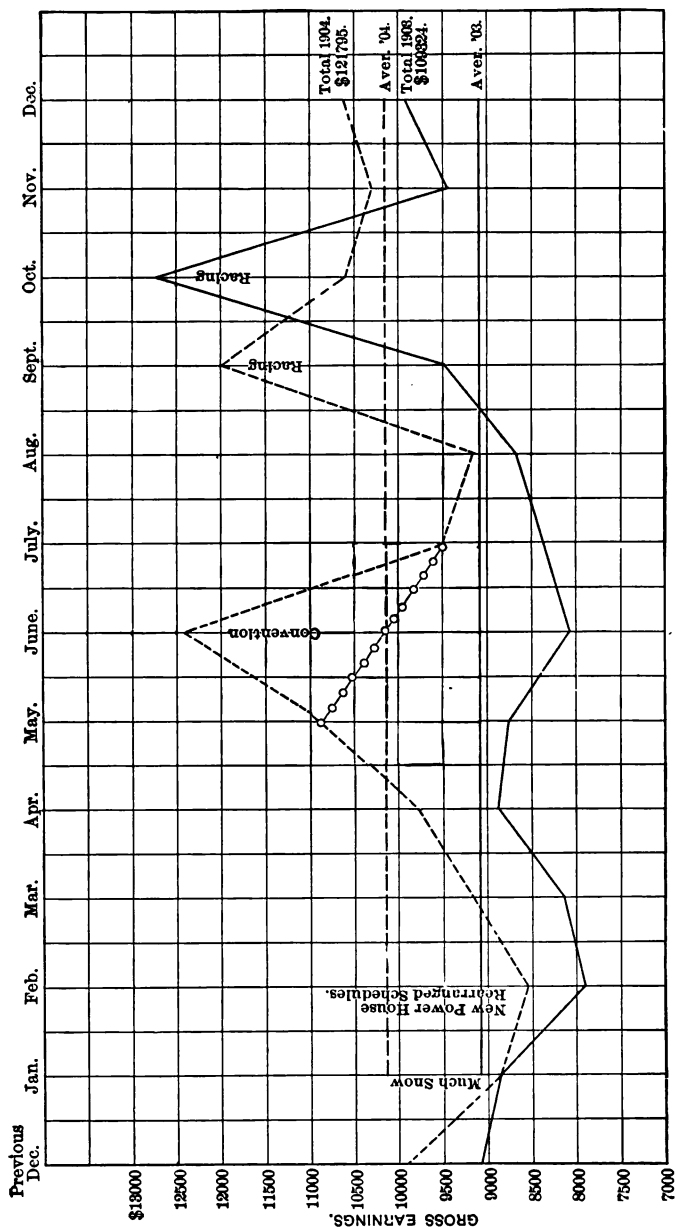


Chart No. 1.

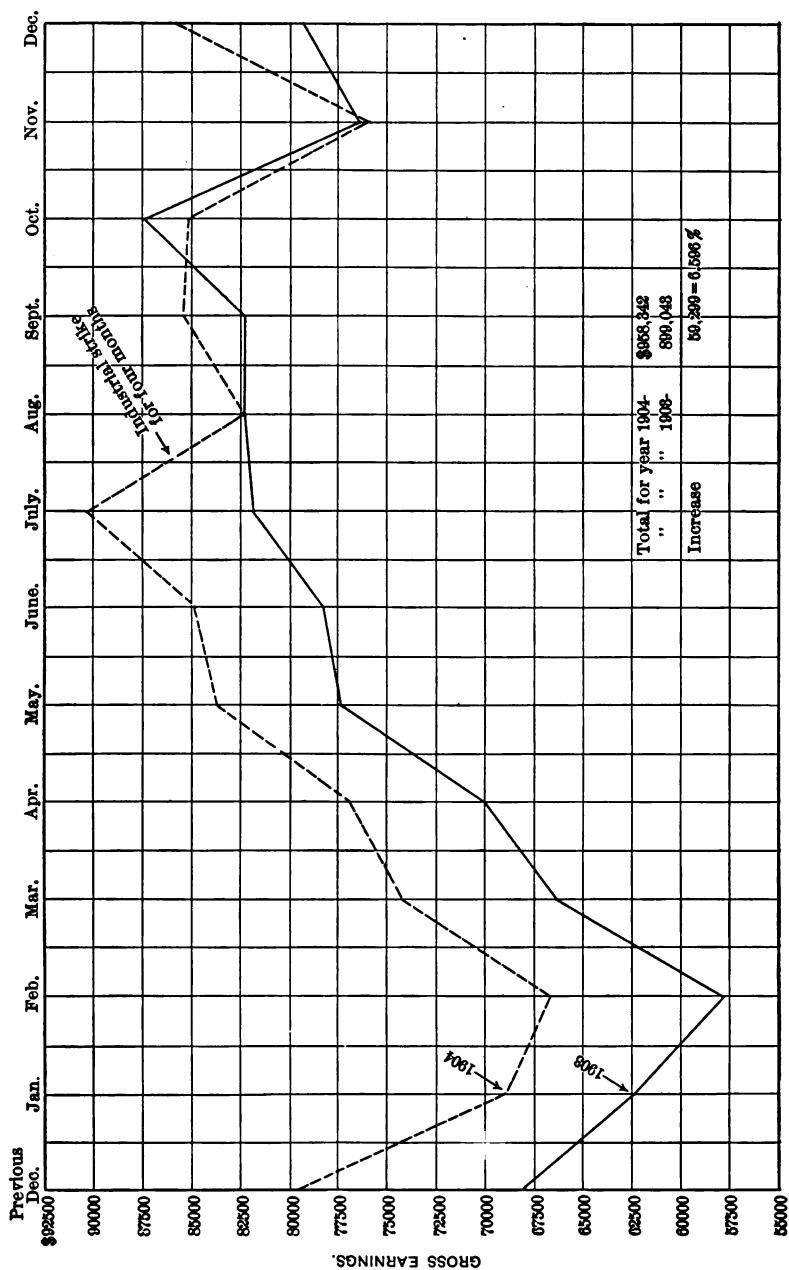


Chart No. 2.

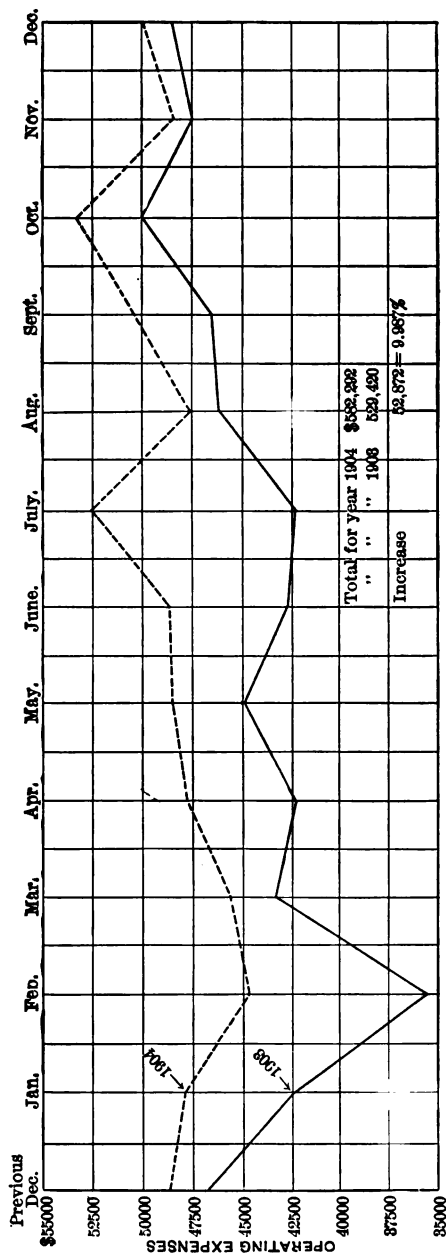


Chart No. 3.

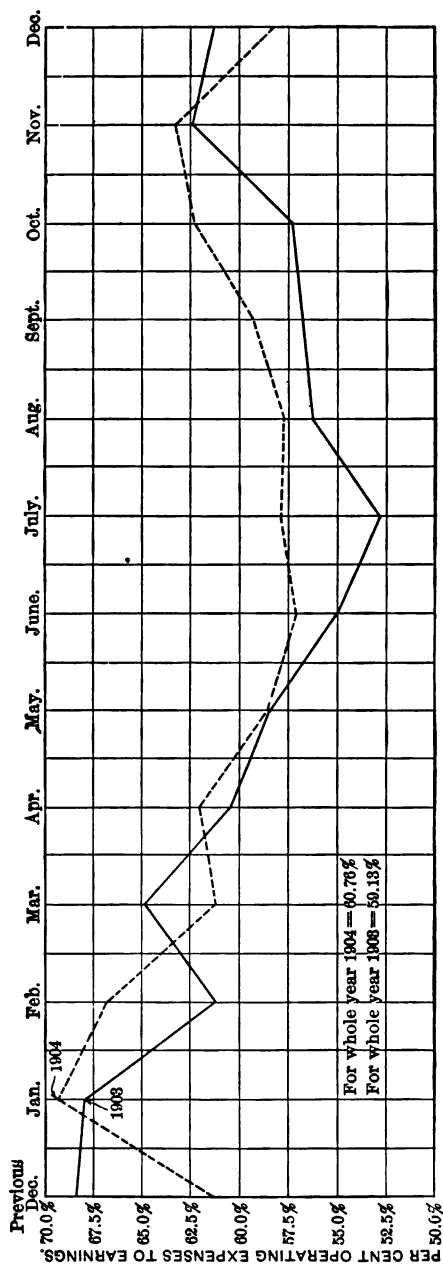


Chart No. 4.

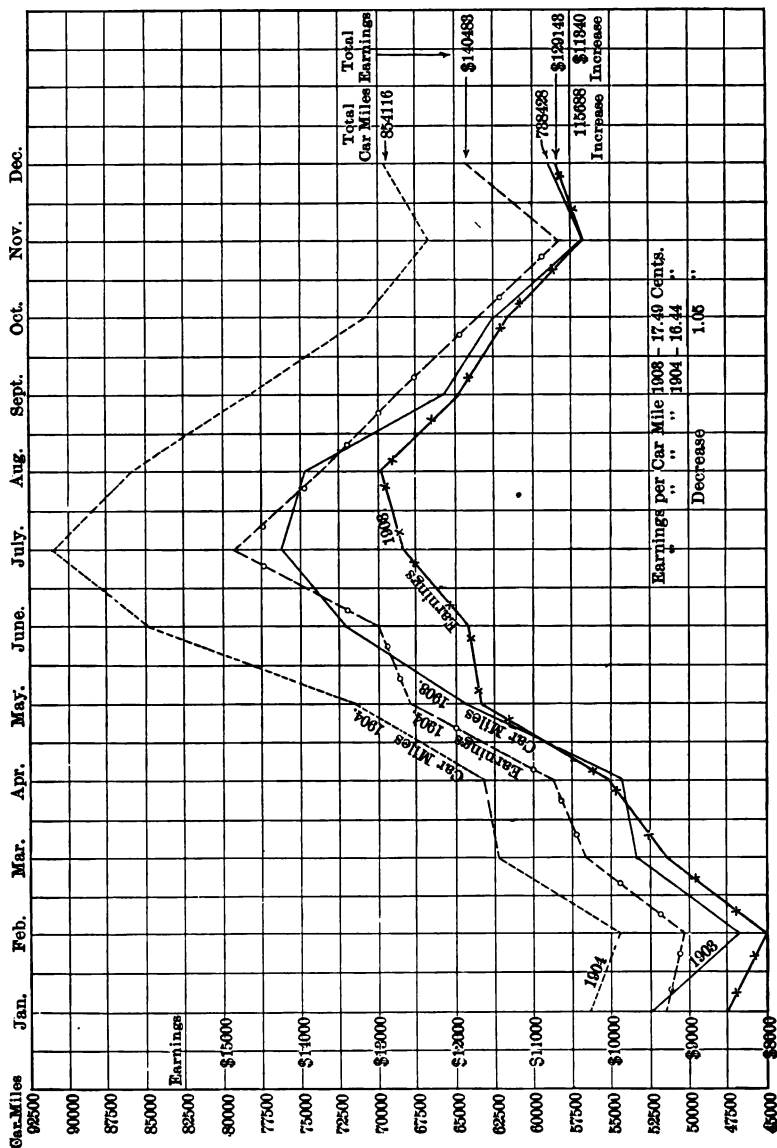


Chart No. 5.

sults of operation may then be plotted on this sheet, in a comparative form too, if desired. The most satisfactory comparative results will be obtained if the days of the week are recorded at the top as well as the days of the month, and the corresponding days of the week plotted upon each other.

It will also be found a good plan to mount the pages of curves in a book large enough to contain them with not more than one fold. This will allow them to remain flat, which, for short pieces of paper, is much to be preferred to rolling.

A short persistent experience will show a number of ways in which corresponding results may be displayed graphically, and by this method, when thoroughly grasped, satisfactory results will be obtained.

In explanation of the curves given herein, attention is called to Chart No. 1. This chart illustrates the effect which special occasions have upon the earnings. It shows the earnings of one route or line for the years 1903 and 1904; 1903 is shown by a solid line, and 1904 by one that is broken. Attention is drawn to the few explanatory notes placed upon the curve. The "peak" at October, 1903, is due to the regular racing season. The curve shows by comparison with the "peak" at September, 1904, that as a whole this line did not earn so much during the racing season as in the previous year.

It makes plain, however, that the same earnings for January of each year were due to the great quantity of snow which fell during that month in 1904.

The note at February, 1904, indicates that a new power house was put into service, and at the same time the schedules were rearranged, because of more power, which permitted the line to give better service and to receive better earnings, as shown by the steady climb of the line to May, 1904.

Assuming, for the sake of argument, that the convention in June had not been held in 1904, and that the curve had followed the tendency shown by the ringed line, the effect of the new power and new schedules would have been a gain in

earnings of nearly ten per cent., even with the decreased earnings through racing-week. This curve is drawn upon a scale of \$100 to the line in order that the differences may show plainly, the route being a small one.

A feature of this curve that is valuable for comparative purposes, is the linking of the previous December to the showing for each year. This permits a better grasp of the "tendencies" of the line than can be obtained by making each year stand by itself. It really means that December of each year is shown twice, once at the end of the year, and once to begin the next.

Charts Nos. 2, 3, and 4 go together. The particular interest which attaches to them is that the earnings show a healthy increase until July, when, as the note states, an industrial strike began and extended for four months. The effect upon the earnings is very clearly shown. It may be assumed that the earnings could not be controlled under the circumstances, and so we will pass to curve No. 3, to see what effect the very greatly reduced earnings had upon the operating expenses. This curve indicates at once that the expenses did not drop in the same ratio as the earnings, but also that while October and November display an actual decrease in earnings compared with 1903, the expenses are increased practically as much over 1903 as they were in the early part of the year with increased earnings. It also shows that while the earnings in September and October are almost identical, the expenses increased. And in December when the strike ended, the earnings responded quickly, while the expenses did more slowly.

Chart No. 4 shows the percentage of operating expenses to gross earnings during the same period, and serves to emphasize how slowly the expenses followed the earnings down.

It is not intended to convey the impression that Charts Nos. 3 and 4 show in an infallible way that the methods of operation were at fault during the period of the strike; the idea which it is desired to illustrate being that by thus

showing the expenses and the percentage of operating expenses to earnings, it becomes possible to see the results in such a light that proper investigations may be made into the causes.

Chart No. 5 shows the earnings and the car miles operated upon a single line during 1903 and 1904. It will be seen that this curve combines not only the car mileage of this line compared for the two years, but it also has the earnings produced by the car mileage plotted upon the same squares at as near the same scale as possible.

The reason for this combination is to see how closely the tendencies of the car mileage have followed the earnings, and the attention is fixed immediately upon the wider space between the mileage and the earnings in 1904 than exists in 1903. In the latter year the two lines follow closely the same direction, except during the summer months, when a wider space separates them. The year 1904, while following tendencies about the same, shows the mileage at a wider distance from the earnings. The result of this difference is an increase of 115,688 car miles to earn an increase of \$11,340, which is 10.2 miles for each dollar of increased earnings. This has reduced the earnings per car mile 1.05 cents for the year 1904, from the amount earned in 1903.

It should be explained that the curve of the car hours operated for the two years is not reproduced, for the reason that the speed has not materially changed during the period, and so the result is not changed by them.

One striking thing to be noticed is that the car miles operated in June of each year have been very largely increased, yet the earnings have not responded in either year.

As explained at the beginning of this chapter, there is nothing special about the figures selected to be charted here. Nor is there anything that cannot be reproduced by any company with its own figures. There is no limit to the usefulness of the plan; and as it is quite possible to keep the curve

up to date by adding each month as it occurs, the tendencies of the curve may be checked at any time by the necessary change of operating methods.

Closer study of the curves reproduced here will reveal other indications than those mentioned. The few characteristic points noted above have been selected simply to attract attention to the usefulness of the curve as a means of expression.

CHAPTER VI.

STATISTICAL INFORMATION.

If the monthly report of a company is considered along the lines of an historical statement, there is every reason why it should not be restricted to expressions of dollars and cents alone.

It is extremely helpful and important if the managing official will add to the report from the accounting department a detailed statement of the performances of his equipment, the men, and what has been accomplished by the power house, the shops, on the track, and, in brief, every feature of railway operation. There should be included comparative statistics of pay-rolls and men employed, and the hundred and one other things that should be taken out of the realm of memory and placed in actual figures easy of access. It is not enough to know the pounds of coal consumed, the gallons of water evaporated, and the kilowatt hour output of the power house. There should be added to these many other data compiled from the daily and other records of the performances of the power house, and when thus gathered together this information should be accurately and intelligently compared with either the same month of the previous year or the previous month. Nor is it too much to insist that these statistics should be carried along for the accumulating period until the end of the fiscal year.

It is common practice that daily reports are made by master mechanics, chief engineers of the power house, and other heads of the different divisions of the operating department, but it is comparatively infrequent when these daily reports are compiled in monthly form and persistently compared with the report of the accounting department.

In a previous chapter, where curves as a means of expression are discussed, will be found some suggestions as to how they may be used to assist the operating official to grasp quickly the performances of the different departments. The time has undoubtedly passed when the operation of a street railway company consists of putting cars on the road in the morning and taking them off at night. The methods of operation have gone so far beyond the days of horse-car methods that transportation of the present day can be accurately described as a science.

The details of an electric railway are enormous. There are so many opportunities for small leaks, and the number of men employed is frequently so large, that it is a physical impossibility for the official in charge of it all to give his personal oversight to every part of the company, but it is possible for him to obtain the most accurate comprehension of the work of the different departments and the department heads through carefully prepared statistical statements. The argument may be advanced that such statements cost money, and so they undoubtedly do. They frequently require clerks in department offices where none are now employed, and they may also require an additional clerk in those offices that now have one or more; but it is a true saying that "the successful man is the man who knows how to spend money to make money," and it is equally true that a successful man will spend money in order to save other and more money, which is another way of saying the same thing. The cost of an additional clerk is small compared with the value of the additional intelligent information that may be obtained, and from this information the operating official may be placed in most intimate touch with the work that he cannot see.

It is quite reasonable to say that the cost of an additional clerk, perhaps \$600 per year, can be easily saved if the statistical information is intelligently asked for and carefully arranged.

Take, for instance, a comparative statement of pay-rolls and men employed. These can be so calculated that the average earnings per man in each department are ascertained, and can be placed in comparison with previous months or previous periods, and expectancy for coming periods. The questions, suggested by such a statement, that will come from a manager's desk as to why the number of men employed is increasing or decreasing, why the average cost per man is changing, and why the number of hours worked is less or more than the period under comparison, will awaken investigation and open the way to corrections of policy.

Consider also the value to the manager of a statement showing in comparative form the number of, and in parallel columns the character of, the accidents that have taken place upon the road. Effects have causes. Therefore, from the study of such a statement of effects it is frequently possible to regulate the causes that brought them about.

There is no doubt that every company makes it a point to gather together in various forms some statistical information. It is always done with the best of intentions, but, unless the information so gathered is studied and made of use, it has but little value. It is discouraging, to say the least, to the ordinary clerk, to see part of his work given but casual attention. He does not always appreciate the value of compiled information, and unless he sees that others apply what he has gathered, he will be liable to do his work carelessly. It is all wrong, of course, that he should do so, but it is human nature to desire to see work accomplished usefully. If this stage is reached, the manager is liable to find, when he really wants the information, that it is not of very much account, and all the while he has been letting the usefulness of the accurate information slip away from him.

Accountants, perhaps as a part of their habits and their work, are usually interested in gathering together information of this kind. The work of the accounting department is really

a sort of statistical work, and very valuable facts standing either by themselves or in comparative form can always be issued from that office. But the manner in which things are used is usually the factor as to the value placed upon them, and if statistics requiring research, and into which very much work has gone, are used casually or lightly, there will of necessity be not much more forthcoming than is required. One accountant not long ago said in the presence of the writer, that he always "boiled down" the statistics gathered in his office into a small penciled statement, as he found the management was not interested in more detail. It seems as though that management is missing an opportunity, for details carefully studied will often start investigations that will lead to economies and additional activities, either of which will serve the double purpose of increasing the return to the stockholders and adding to the reputation of the management.

Statistics take several forms, and somewhere will touch a spot in the work of the company where they are needed. If carefully gathered and distributed among the heads of departments, and if their use is encouraged, they cannot fail to better conditions.

Too much stress cannot be placed upon the need of accuracy in the compilation of this information, for a slight error may easily throw a comparison out of line yet not make a difference noticeable enough to awaken attention.

The average company is careful to compile interesting and accurate statistics, but each department is working by and for itself. It is the need of including all these details in one general report that is urged. The same principle applies as with the accounts, which no one would think of segregating into departments and not summing up into one general statement of operating costs. All effort put forth by a company has but one purpose, and it is as necessary to gather all statistical information into one place as it is the accounting detail of operating costs.

An argument in favor of one complete statistical statement that offsets all arguments against the plan is that the statistics when placed in contact with the auditor's statements of cost have to bear a more searching examination. Thus another form of scrutiny is obtained, and it is a very valuable one.

Were it not that the word "accounting" forms the limit around the discussion in these pages, it might be expected that a suggested form would be given as a guide to the gathering of statistics. But because of the varying size and operating methods of the companies, and because of the many methods of generation, distribution, and use of the electrical energy, it is quite impossible to give here any suggested form statistical information should take. In addition it will be remembered that there is no standard form of statistical statement at this time, hence each company must decide for itself what it wishes to know.

This subject could be carried on to an extended argument in favor of operating statistics properly compared with previous and like periods. It seems hardly necessary to continue further except to point out that whatever statements are asked for should be so carefully constructed that the information will not be duplicated, and, as explained in the chapter relating to the accounting report, the statements should be logically arranged.

CHAPTER VII.

WHAT STANDARDIZATION OF ACCOUNTS MEANS.

WHAT is known as the standard classification of construction, equipment, and operating expense accounts for electric railways was formulated and adopted after much discussion, by an organization known as the Street Railway Accountants' Association of America.

The object of the classification is to provide, in concise and logical form, a list of accounts which may be taken by electric railways to show what—in various items—it has cost to construct and equip the property, and by the use of other accounts to show thereafter what it has cost to maintain and operate it.

The accounts selected and adopted are few in number,—fifteen in the construction and equipment section, and thirty-nine in the maintenance and operation section. The titles and the order in which the titles were made to follow each other, and the definition of what each account should contain, represent the consensus of operating and accounting opinion and the experience of a large number of electric railway men.

It has been in service several years and is widely adopted, so that there can be no question of propriety in calling the classification standard. This classification has done as much to clear away the mystery that had grown up about investments in electric railroads as any other single thing. It is not too much to say that it has had a very marked influence upon the intelligent operation, and, therefore, the intelligent investment in the securities of this class of railroad transportation.

A simple illustration of how it has worked and the need of it

is shown in the case of the small company. There are hundreds of these little companies, none of which can afford to have in its employ an accountant of the higher class, nor is there work enough to keep him busy if it could be afforded. If no standard classification existed, the natural plan would be to place the accounts in the charge of some one taken from a bank or other commercial line, and with the help of the officers of the company a plan be outlined and followed. Naturally, their method of showing expenses would agree but little with that of other companies, and the result would be much confusion and doubt, not only on their part if they attempt to compare with other companies, but to their bankers also, who, being interested in other companies, could form no comparison between them.

But imagine the difference when, by the adoption of a standard method of showing expenses, all the small companies become similar in accounting methods, and the same expressions are used for the same meanings. The situation is simplified further by the adoption of the same system by the large companies, until gradually the titles of the accounts have come to have but one meaning.

Standardizing the operating and construction accounts has cleared the atmosphere, and now a company has the plan laid down for it and a chart prepared according to which it may sail. The manager who will start with the positive information that the accounts of his company and those of another contain the same items, and still finds the comparison not to his advantage, is in a position to analyze his expenses for the little leaks or larger errors of judgment. So, by its use, accurate methods are brought to the small company as well as the large, and it must be with much satisfaction that the smaller company considers this view of the subject.

Another benefit derived from standard methods is that the classification is not changed, nor even interrupted, by the loss of old and the employment of new clerks or management, and

it will guard much against inaccuracy in the hands of inexperienced employees, only, of course, it contains no magic that will wholly safeguard human shortcomings.

Standardization means simplicity, and the general statement may be made that simplicity is the one prime factor next to accuracy most needed in accounting. So that saying it tends to simplicity is one of the strongest arguments in its favor.

This does not mean that a standard system of accounting in all its branches, as relating to electric railways, has been found. There are many reasons why the hope is expressed that a standard method of accounting from first to last may never be adopted. The principal reason is that it must surely destroy individuality in the human part of the work. And if that time comes, the electric railway accounting service will suffer much as the steam railway accounting service has in being tied to the ideas and wishes of others. The standard classification is enough, and while suggested methods may be freely offered along the detailed work, there should be no attempt to standardize them. Further, the standard classification is the one thing that has placed all companies on a common footing. Its adoption and use have done much toward accuracy and stability, for it has laid down safe principles which all companies of all sizes may follow to their benefit; but when a method of doing the detail work of the office is attempted, it will be not only difficult to establish, but unsatisfactory in results, as local conditions of operation and custom will always operate as a bar.

It is well to point out, however, that the use of similar titles of accounts for the comparison of one railroad property with another is an unsatisfactory process, without taking into consideration the differences in geographical and physical arrangement. It should also be borne in mind that the mere charging of like activities into similar accounts does not bring about direct comparisons of companies in different localities, nor of companies of different sizes.

While it is true that a quick and general idea for operating and investing purposes can be gained by the use of comparisons of operating accounts, a comprehensive idea of the scope and work of the different administrations cannot be gained other than by the use of vastly more information. The mere knowledge that one company earns 18 cents per car mile and another 25 cents, or that one operates for 9 cents and the other for 18 cents, does not at all show that the first is more economical than the second. Nor will the added assurance that the first company earns more and is operated more cheaply per car hour than the second, be a positive basis to compare managers. The contour of the property, the cost of labor, the cost of fuel, the kind of fuel, and many other matters, enter into a positive comparison of the properties. One manager may have a modernly equipped property, and the other may be heroically holding his property, together by the force of his personality. With this accepted and followed, the report of a company can be pretty accurately analyzed by a stranger if he can be placed in possession of the facts of mileage, physical condition, etc.

Aside from the confidence felt in following a method known to be standard, and also from the advantage of comparison with other companies, the greatest advantage comes to a company comparing the present with the past. The assurance that the past contained the same items as the present brings swiftly and easily home to the present management that there is a reason to be found somewhere when the comparison is not favorable. There is also the advantage that an investigation need not be started of the method of accounting, as that is standardized and was the same in all periods.

It is very true that there is a reason for everything, and it is also very true when the operating accounts climb, as they have a habit of doing. They cannot do so without the approval of some one, and a standard classification helps to point

out the person and the policy that permitted the increase. Anything that will assist in fixing causes and effects is valuable.

This standard classification is so lucid and comprehensive that the writer does not hesitate to recommend its adoption by all street railway companies, and to recommend further that it should be implicitly followed. It is flexible enough to provide for local conditions without interfering with the general plan, and, when adopted, the greatest care should be used in charging the items to the proper accounts.

CHAPTER VIII.

THE BALANCE SHEET.

ONE of the best descriptions of a general ledger is contained in the exceptional work by Marshall M. Kirkman, entitled "The Science of Railways." In this work the author compares the ledger to a graveyard, into which is gathered everything left over from previous activities. He refers to the headings of the accounts as the tombstones, and it seems that the comparison is particularly apt, for into these accounts are gathered and literally buried the results and the totals of the company's life.

The balance sheet has been always considered, as it properly is, a very important statement of the company's condition, but the tendency seems to be to pay rather more attention to the operating results of the company than to its condition as displayed by the balance sheet.

If not forming a part of, there should at least accompany, the monthly report of operation to the president, a complete analysis of what is contained in most, if not all, of the ledger accounts.

It is comparatively easy, under ordinary conditions, to gain business, and it is easier to extend credit. Where the difficulty arises is in obtaining actual money for the credits to income put into the general ledger, offset by an equal amount in some account in the assets.

In an intimate examination of a number of companies, the writer has almost invariably found assets upon the books that were worthless, or nearly so. These assets of record were placed in the books in good faith, but by the process of time or neglect, or both, a collection had not been pushed. It also

frequently occurs that investments, on account of policy or other reasons, are included in the assets of the company at their face value, when every one connected with the company is cognizant of the fact that they are worth less than par.

The balance sheet, while supposed to show the condition of the company, can be made a most misleading statement. Numbers of companies have been wrecked upon rocks which were not clearly shown on the balance sheet. For this reason the balance sheet should be arranged in such a way that the different classes of assets and liabilities can be grouped together with subtotals enough for intelligent comparisons.

What is known as a condensed balance sheet should never be used in the monthly report without the soundest of reasons. It does not require much explanation here to show that accounts may be combined in such a condensed balance sheet and pass muster, when the attention would be quickly arrested and questions asked about accounts standing by themselves. The custom is all too common that but three accounts are carefully looked for: they are cash on hand, bills payable, and surplus. All are important, of course, but they are not conclusive.

Cases have occurred where dividends have been paid upon the strength of the profit and loss account without reference to investments and other charges in the accounts which clearly reduced the value of the profit and loss account. When the distribution of charges is in his control, it takes a strong-principled manager to charge to operation items that may be stretched to be considered construction, and it is also quite possible, through a misunderstanding of facts or a scarcity of information in the accounting office, to charge items to construction without his knowledge.

The accounts receivable account is frequently another place where dead and alive accounts are carried along indefinitely as an asset of the company. It is not impossible for items to be carried there so long that collection cannot be made.

Prepaid accounts go into the books as assets, and their accumulation is so subtle and so gradual that they require the most careful watching in order to preserve the integrity of the profit and loss account.

Therefore, the analysis of the ledger accounts, which should accompany the report to the president, should contain each month a detailed explanation of each asset and liability account of the company, together with such information relating to the items in the accounts receivable, the accounts payable, the prepaid accounts, the bills payable, and the other accounts relating to current assets and liabilities, that the official who is placed by the stockholders and directors at the head of the organization, shall be persistently and consistently in intimate touch with the condition of the accounts as they appear in the ledger.

That the books balance is not sufficient. It is the condition of the accounts which are balanced that tells in the end.

The balance sheet, as contained either in the monthly report or accompanying the analysis, should be as much in a comparative form as the income and operating parts of the monthly report. It should be so constructed that the accounts as found at the end of the previous fiscal year, the current month of the report, and the previous month, can easily be compared. The differences between the current month and the end of the previous fiscal year, and the differences between the current month and the previous month, should be carried out in parallel columns. Then there should be a statement accompanying the balance sheet analyzing wherein the differences between the two months and the fiscal year to date occur. This should be so clear that the information is of value.

From an accounting standpoint it is easy enough to charge anything to any account. Where the difficulty occurs is in explaining why the charge was made, and the official in charge of the general books of the company should so fortify himself that when the time of explanation comes his reason will be found to be well grounded.



The statements and comparisons outlined above will require detailed work and a good deal of it, but they place the actual condition of the company in a clear manner before those responsible for its welfare. Careful attention should be given the information thus obtained, and the accounts should be kept thoroughly cleansed at all times.

The segregation of the accounts in a balance sheet into divisions, such as capital, current, and passive accounts, both of assets and liabilities, and then to match the divisions of assets with the like divisions of liabilities to show the preponderance of the one over the other, does not give a clear idea of a company's status unless the value of the accounts is considered.

Such a comparison does show whether or not all the divisions of book assets offset the liabilities, and is desirable to that extent; but many accounts may be of value upon the books for future accounting purposes, yet possess no money value. For instance, while suspended prepaid accounts represent par of money expended, they will not, if the company is suddenly dissolved, bring par as an asset. Nevertheless, they are important for their purpose and must be shown on the books. Another instance is the material and supplies accounts, which are rarely equal in an inventory to the value on the books, and certainly if turned into money will not bring the purchase price.

So that in making such a statement, great care must be used not to be deluded by the result obtained.

Full cognizance must be taken of the fact that a railway company is a going concern, and cannot, except under the most extraordinary conditions, cease operating. Once started they rarely stop, and their accounts must be so considered. Therefore, to use such a statement in its entirety as the basis to find assets with which to continue or complete construction or other undertakings, is not trustworthy. Only certain of the accounts are worth cash, and only after careful provision for

the current and accrued liabilities should they be considered as assisting toward other purposes.

The balance sheet of a railway company and other large corporations is particularly susceptible to accounts which may be called "blanket" accounts. By blanket is meant the gathering of many small accounts into one account upon the general ledger. What is known as accounts payable illustrates what is meant. In a subsidiary ledger are kept all of the accounts owing for material and other general purchases, which, because they are so numerous, and because many of them once opened and closed are never or rarely opened again, would soon fill the general ledger. And also because of their temporary character they are more interesting and useful in the total amount owing by the company than they are in the several details.

Corporation accounting, it may be explained, due to the multitude of details leading up to the general ledger, places the details of most of the accounts appearing upon the ledger into books made for the purpose. That is, the accounts payable, the accounts receivable, the earnings, the cash, the items in suspense, and other accounts are entered into books made especially for the needs of the account, and then only the totals each month are posted into the general ledger. In this way the ledger of an average corporation is not in use daily to receive details as it is in commercial accounting. The subsidiary books intervene to absorb the details. The balance sheet becomes a condensation of details which explains why there are comparatively so few accounts in a balance sheet of a street railway. It is not that the details are not there, but that they are absorbed by subsidiary ledgers.

CHAPTER IX.

ACCRUED AND SUSPENDED ACCOUNTS.

ONE of the factors in a balance sheet to which especial attention should be given is accrued and suspended accounts. Otherwise there will be confusion as to the extent to which the profit and loss account is a demonstration of the earning ability of the company. In examining the condition of a company as shown by the balance sheet, these items must therefore be scrutinized as carefully as any other part of the statement. They should not be dismissed with the thought that some of them are "book accounts" merely.

The real difference between the accounts known as suspended accounts and those classed as accrued, is that the first are usually intended at some future period to be charged into the operating expenses, or, at least, in some way to be a charge ordinarily affecting the profit and loss account, while the latter have gone through the process of reducing the profit but are not yet paid.

Another way to explain the difference would be that those called suspended have been paid or offset into accounts payable, and for various reasons have not been charged to the account to which they will later go. Sometimes they may be called prepaid accounts. The accrued accounts are those which, for the sake of accurate accounting, are charged to the operation in their monthly proportion, even though they are not due and payable until some coming day.

The same reason usually governs both. The spirit of comparison permeates the whole of corporate life. Everything is judged by the way it compares with a previous period, and so, to make the comparisons as clear and distinct as possible, it be-

comes an accounting matter so to keep the accounts that some kinds of inequalities do not so swell the charges in any given period as to destroy the comparison.

Many expenditures in the operation of a property will be abnormal at times and for perfectly proper reasons greater than the immediate needs justify. For this reason, the items composing the extraordinary expenditure, instead of being charged in total to the proper operating account, are suspended, and then at succeeding periods the proportion due from those periods is charged out, eventually wiping out the suspended account. This is well illustrated in the accounts Prepaid Insurance, Prepaid Taxes, Telephone Rentals, Damages, etc. It is obviously unfair to charge the total cost to the month in which these payments are made. Take for instance Insurance, and assume that all the policies of insurance expire in the month of October, and that the annual premiums amount to \$6,000. Insurance ordinarily cannot be bought except by the prepayment of an amount for the whole annual cost. Therefore, for the sake of comparisons and really for accurate accounting, it is quite unfair to charge the month of October the whole of the \$6,000 for insurance when its own proportion could be no more than one-twelfth of the whole amount, or \$500. Nor is it possible to remember that the annual premiums for insurance are all paid in the month of October in each year, for the reason that cancellations are always being made by the insurance companies and soon the policies are terminating in all the months of the year, even though they were started together.

Telephone rentals in many cities are prepaid in quarterly installments, and when this is done they too should be handled in this way.

The account Damages may be either suspended or accrued. The nature of the account makes it difficult to handle correctly or satisfactorily. Damages are constantly being accumulated as a liability, and yet it is quite impossible to fore-

cast accurately what the cost is to be in each case. Nor can the date of the final settlement be fixed even approximately. One thing only is certain, and that is that the date of settlement of a large majority of the cases will not be within the month in which the cause occurred.

For these and other reasons, the company finds itself compelled to estimate the cost, and thus to charge to each month an amount it expects will be sufficient to provide for the expense. There are many ways in which this is done, one of which is to examine the previous experience for some years and fix upon an amount that it is hoped will suffice for the coming year, then to divide that amount by twelve and charge out a fixed sum in each month. But this plan, as well as the others, must be watched to see that the guess is not too small, because, in that case, the charges in the later months must be increased to absorb the excess. This plan has the objection that each month appears alike, when experience usually proves that some months are more expensive than others.

Another way is to fix upon a certain percentage of the gross earnings and charge that amount out each month. This assumes that the months of the largest earnings have the most accidents.

The best way is the one followed by a few, possibly by only one company. The company in mind has gathered most complete statistics of its experience in the cost of cases of all kinds, and each month it charges out an amount based upon those statistics which should be sufficient to pay for *that month's claims*. This is, no doubt, the plan nearest right that any company can follow, for it puts into the books at the time and up to date an amount for all its claims, while the usual way is not to accrue the claims but the payments. By the usual plan, if a company accrues within a year a larger amount than it is required to pay, it usually feels that it has done pretty well, when perhaps the claims which must eventually be paid, will amount to a sum that would cause a financial strain.

There are many other such asset accounts which under good accounting should be treated in this way. And the same may be said about certain accrued accounts. Interest and taxes furnish similar examples, except that their treatment is reversed from those considered above. In accrued accounts the payment is not due, and may not be due for several months, therefore it is as unfair to the month in which the payment is made to charge the total cost to it as in the case of the prepaid accounts.

There is one great difference, however, in the case of the prepaid accounts. The payment has been met, and there will be no future cash embarrassment on their account. In the case of the accrued accounts, however, the charges are accumulated in advance of the date of payment, and unless cash preparation is made also in advance, there may be trouble in meeting the obligation.

A company may keep its accounts most accurately, accruing to the cent all the payments to be made, yet be totally unprepared when the day of settlement comes to meet its just debts. This means that it does not at all follow, because a company is fully aware what it must do, and writes the fact in a book, that it is able to carry out its obligations and meet them promptly.

As explained above, there are some things which, for accuracy, it is proper to suspend and accrue, but the ease by which it is done has brought forth another class of suspended accounts for which so much cannot be said.

There are times, more or less frequent, when, after gathering all the proper items together for a month's operations, the total charges are so large that the comparison with the previous period, or the percentage of earnings, or the increase of expenses, looks "bad." Then it is that a lump sum is taken from some offending account and suspended. Usually the suspense is written out in subsequent months when that particular account does not show up in an extraordinary light,

and, so far as the public sees, all is well. But it sometimes happens that the subsequent months have got all they can stand of their own conditions, and the suspended accounts stay suspended to the actual weakening of the profit and loss account.

In the accrued accounts it is necessary that great care be taken to see that proper attention has been given to the details composing them. Interest is a matter of simple calculation only, and should be of no trouble, but taxes present an entirely different problem. They are usually of several kinds on property located in numerous places, and are paid in different ways at different dates. The item of taxes can go through more combinations and make more trouble for the accountant than any other of these accounts, and he should by every means possible be constantly on the lookout for inaccuracies.

It is a good idea to have a subsidiary ledger called a suspense ledger, into which should be posted the details of all the accounts suspended, and this ledger should be watched most carefully.

The accountant should be required to furnish monthly a carefully prepared statement showing the condition of these accounts, that full cognizance may be had by all concerned and so there can be no reason for embarrassment at a future day.

CHAPTER X.

EXPERT EXAMINATIONS.

It is a considerable accomplishment to be able to spend money in order to make more money. The withholding of expenditures, sometimes called economy, is often the most extreme extravagance so far as the final result is concerned. There are ways of spending which save in the end, and one of them is treated in another chapter. And there is a way of spending which adds security to money or its equivalent. It is this method which is made the subject of this chapter.

The expert auditing of the accounts of a company is a necessary safeguard, not, be it understood, always to protect against dishonesty, for there are many other things to guard against besides that. Misunderstanding of conditions, errors in judgment, disregard of modern methods, inaccuracy, "getting in a rut," and other causes, can and do bring about disaster, probably as often as dishonest practices by the accountant or by others.

Expert examination of accounts has its simile in the examination which the physician gives the candidate for insurance. Made by a disinterested person it becomes a careful analysis of the conditions as they are found; and in the light of what they should be, the report is made.

As the experience and reputation of the physician are elements to be considered, so also the same qualifications are of importance in expert accountants. The word "expert," as here used, comprehends the accountant known also as public, chartered, certified, and other terms which, while not strictly the same in meaning, are usually accepted by the public for

the same, so that not to draw distinctions too finely here the word "expert" is used.

Generally speaking, the examinations should be made annually and at a time to correspond with the fiscal year, so that when the term of an annual administration expires the report of the audit may be made at the same time, thus making the report to the stockholders more complete and perhaps more satisfactory. At any rate, it adds to the feeling of security and approval.

There is this to say, however, that an expert report must not be considered as giving a clean record unless the wording of the report is such that it warrants it to be so taken. A report of this kind usually recites the instructions given to the expert, and unless they are sweeping and comprehensive the result will ordinarily be an examination of the transactions leading up to the profit and loss account, which clearly is not sufficient for a complete report. Nor is it sufficient to report that the annual statement of the company and the books agree, because a transcript of the annual balances of the ledger accounts may be made with all accuracy, yet the condition of the company, its actual solvency, may be everything but what it should be. It is quite possible that the books can be correctly kept and a large profit shown which is reported and certified, yet the profit be entirely absorbed in other accounts on the ledger.

The instructions to the expert should comprehend a most searching examination into the condition of the company. That is, what it is actually worth and how it came to be so.

The value of the assets on the books must be thoroughly analyzed to do this, and at the same time to decide if all the assets are accounted for.

The known liabilities must also be made the subject of a search, and should be analytically considered and reported at their true worth. To do this the mortgage and franchise conditions will have to be ascertained and compared with the

books and practices of the company. This is often a fruitful field for search; hardly another matter can be so important in results if neglected.

It is seldom that an examination takes into consideration the often dangerous liability of unsettled damage claims, yet no company is free from them. With remarkably few exceptions, companies do not allow these claims to go upon the ledger even at a reduced or estimated value until paid. Experience shows that the amount claimed and the amount paid in these cases are widely apart, but paid the most of them must be, at some time and in some amount, therefore they are a most distinct liability, and to that extent they reduce the value of the property. When an examination does not make mention of these items and make allowance therefor, it is unstable at least to that extent. Instances have occurred where a company has been loaded up with liens and judgments of various kinds, and its appealed cases in court have also been of a damaging character and quantity, yet not a mark appeared upon its books showing the situation. Conditions of this kind are often important and must be reported.

Finally there have been, and no doubt are, instances where bonds have been canceled and retired without the mortgages securing them being satisfied upon the records of the county in which they were recorded. This satisfaction or cancellation may be fulfilled legally and no trouble may be caused if the mortgages should remain in the public records as outstanding, but such a course is unnecessary to say the least.

When the condition of the company has been thoroughly examined, the report should contain a summary of the findings and be recapitulated in a simple straightforward story, so that those not versed in the language or the technical statements of accountants may easily and thoroughly understand what has been the result of the search — for search it literally represents. If the above is followed, there is much less liability of the management and the stockholders gaining a wrong impression of the position which their company occupies.

Objection may be made to such a plan because of the expense attendant upon it, but it need cost but little, if any, more than the usual audit. However, a plan which will make more secure the values of a company will find its echo in market values and confidence. And surely such an expenditure, to put it plainly, cannot by any means cost so much as a reorganization, and it is much more agreeable to all concerned.

Such examinations have become a part of the new order of corporate life; and while the financial side of the subject only is considered here, it may be said in passing that it is of equal importance that the physical and legal status be also the object of examination. As much can be said for that kind of a report as for the financial, and the need of these reports is being more recognized at the present time than heretofore. An audit requires that the income and the expenditures be verified in detail. To do this, every voucher of expenditure and every source of income must be scrutinized and checked. In addition, all entries upon the books must be followed carefully from their beginning to their final resting-place upon the ledger. Even then the work is not completed until whatever changes they have there undergone have been checked and traced to another point. The reasons for all movements of accounts must be found and approved, or, in the case they are not approved, attention should be called in the report to what has been and what should have been done.

Owing to the exceptional detail of the income of an electric railway, comprising often thousands of conductors' reports, it should be understood that an audit rarely, if ever, includes a complete check upon that part of the income. The customary way is to check a day here and a day there, or perhaps one day of each two weeks of the period covered by the audit. This ordinarily may be considered sufficient. With it as a basis, the earnings may be easily traced into the bank. But it frequently happens that the size of the company precludes keeping the conductors' reports any length of time. In this

case the audit cannot go back to them, and must start with the books of record or statements upon which they are based. However, it is not an easy matter to "salt" the earnings of an electric railway, because its value rarely stands upon the record of one year, but upon what has been done in a period covering several years; so if the money shown by the earnings really reaches the bank and the ledger, it is fairly good evidence that it was received from the public.

An audit should see that the entries of all kinds bear the approval of some one in authority, and the responsibility of the approval should be set up and reported. This is not often done, but it should be.

Particular care must be used when two departments are interdependent in the same transaction, say, for instance, the accounting and the treasury departments. In cases of this kind, one department begins a transaction and the other finishes it. Conditions such as this give openings for entries and changes in amounts and carelessness that require a positive check and verification.

From the foregoing it will be seen that there is more to an expert examination than the mere statement that the books and the balance sheet and income account as shown agree. Nor is it enough to say that the books are neatly kept. What is needed is the assurance that everything on the books belongs where it has been placed, and that everything ascertainable has been recorded. And further, that the values shown are accurate.

It is not reasonable to expect that all expert accountants can do this. An expert in commercial lines is not always qualified to examine and pass upon the accounts of an electric railway. The two classes of business have little in common, and for this reason it is best to know beforehand what railway experience the expert accountant has. When satisfied on this point, give him sweeping instructions and then require a certificate that really certifies.

CHAPTER XI.

THE ACCOUNTING DEPARTMENT NOT A REVENUE PRODUCING DEPARTMENT.

At the beginning of the steam railroad, it is easy to believe, judging by the experience of the electric railways in their infancy, that in the small way in which they had their rise, various duties, which are now carried on by different departments, could be, and were, performed by one person, the general manager being, no doubt, held responsible for the active and detail work of the office as well as for the operation of the road. In time, the freight and passenger departments were added, or rather their work was taken from the active duties of the manager, and the accounting department also received an official head and became a definite department. These results are most natural, because there is a limit to the amount of detail work a man can do, and as the size of the roads increased, it followed as a necessary consequence that the work should be specialized. It is very common to-day for the executive officer to understand the detail of all departments, but he certainly cannot have the time or the strength to be in immediate contact with all the details. His duties are large, and he deals with principles and results.

As the steam roads grew, the natural result was competition, which meant that greater efforts had to be put forth to obtain what was considered by each road to be its full share, or more, of the business tributary to it.

In the course of events, with competition becoming stronger yearly, there came the time of reconstruction. Many of the roads were not provided for this additional strain. Whether their unprepared condition was caused by lax accounting

methods or by high operating cost would make a very interesting study. Be the cause what it may, the roads had to meet the problem, in part, by rigid economy. The line of reasoning followed at that time gave the basis that whatever department produced revenue should not be restricted in its efforts, for upon those efforts everything was supposed to depend. However, as the accounting department not only did not produce revenue, but seemed to be expense only, it at that time and since has felt the first effects of reducing expenses. It is curious that office clerical work has always been considered almost as a luxury.

It was a long time before the period of economy was over, and all this time the accounting department was running short-handed, or with a force of cheaper priced (which is usually another term for poorer quality) clerks. This meant little at the time except that it was so much money saved. What it meant later is another story, for the reduced information from the accounting department helped toward a misconception of actual conditions, so that the results caused partially by a "cheap" accounting department and its consequent weak system, are found everywhere in the later history of American railroading, and in the Federal courts.

The above is a preliminary sketch of causes and effects to show how an idea, once taking root, may spread to conditions not originally contemplated.

Many features of electric transportation, in operation and finance, have been adopted from the steam railroad practices passing current at the time. This applies principally to the methods of organization, the financial plans, and the operation of interurban properties. This is natural, as steam railroads had had nearly sixty years of experience when electricity commenced to revolutionize urban travel. As conditions were not similar in all details, changes have been made to conform to the new environment.

It is not strange, then, that at the same time some of the

axioms of the old should be brought over to the new system. But it is to be regretted that the trite saying, "The accounting department is not a revenue producing department," should have been adopted with the old meaning, and not adapted to the new conditions, for as it reads, it contains, by the interpretation of custom, a sort of criticism which should not exist. For instance, the claim that "bookkeeping" is necessary but should be made as cheap as possible, carries a meaning to the word "accounting" quite at variance to its true meaning as distinguishable from the word "bookkeeping." The statement, as it stands, is true. It is not a revenue producing department, but it occupies a position unique in its importance, because the whole organization other than the accounting department may be considered as the manufacture and sales departments, and they cannot know the producing costs or the actual profit without careful accounting. Estimations are not to be thought of as finalities.

It follows, then, that accounting is of prime importance, and should be thorough and accurate, so that the results of carefully executed plans of the operating departments, for the increase of revenue and decrease of cost, may be given promptly and be dependable.

Statements of the accounting department are the basis for changes in operating plans, and frequently affect market values of the securities of the company; presidents, managers, and investors are placing their reputations and profits in the balance with operating results. It is important, therefore, that the department which brings out the statements should be as carefully organized as any other part of the whole, and not be in the hands of an auditor who is "small," "narrow," and "cheap," and with all that cheap usually means — with clerks under him costing less and worth less. It is economy in initial outlay, but it is not warranted in the results.

It is proper to include the work of the treasury department as a part of the subject under discussion, because, at the present

time, few electric companies are large enough to separate the two; therefore, the matter assumes new importance, or rather, its importance is accentuated. It is folly not to surround the handling of money with all possible system and safeguards. This is held to be true the world over; yet the most essential part of any system is the human part, and too great care cannot be devoted to it.

While conceding that the department is not revenue producing, the writer wants to point out wherein that does not destroy its importance, and to show its functions in their true light. Experience has brought out certain headings, under which are gathered the different items comprising income and disbursements of the company. The dollars and cents shown under these heads mean to the management that certain things have been done. Shrewd experience transforms these figures into the things done, and from this experience plans are made for the immediate present and the future. If, in the accounting department, inexperience, being cheaper, is substituted for experience, which is more expensive, the result to the operating and financial statement, which is of so much importance, is not difficult to imagine. Indeed, receiverships have resulted from misstated and misunderstood statements.

In view of the analysis that is possible when statements are intelligently prepared, there is much evidence that electric, if not steam, railway interests are recognizing the truth of the substitute axiom, "The accounting department is a revenue saving department," which is more fair to the department and not easily misunderstood.

The next important step which the modern organization must take sooner or later, and it has already begun, is to so separate the accounting department from the rest of the organization, by having its head report direct to the president, that it will be relieved of the restraint that has often neutralized its efficiency when controlled by a "record-making" administration. Accounting is so vital that nothing should be allowed to divert its accuracy.

One thing may be thoroughly relied upon: accurate accounting, as the work of an experienced railway accountant, will always provide the opportunity for intelligent operation and for financial security, so far as it depends upon the story of conditions.

CHAPTER XII.

SOME QUALIFICATIONS OF THE RAILWAY ACCOUNTANT.

Nothing can be thoroughly explained or understood without having in mind the force that controls or directs it. No system of accounting, nor the scope of its methods, can be clearly appreciated without taking into consideration the personality of the head of the accounting department. And, it must be acknowledged, no system of any kind, be it ever so perfectly planned, can be depended upon unless it has a properly qualified directing head.

Very much has been written about system, the need of it, and what it can accomplish; but very little has been said about the human element in it. Certainly "Messages to Garcia" have appeared, but they are in general terms and do not specialize. The intention of this chapter is to give a few brief suggestions upon some of the requirements necessary to make an accountant all he should be as the head of a very important department of electric railroad practice.

Beyond the fact that he should have ability and understand his particular work, and be accurate in his work — requirements which it is assumed he fills, else he would not be so situated — there are at least four other elements necessary to make his work well rounded. They are honesty, individuality, tact, and imagination. Two of these are not usually considered prerequisites, but this chapter, it is hoped, will show their importance.

The first of these, honesty, is always considered, but always from a dollars and cents point of view, which is, of course, important; but that does not comprise all. It should mean fairness and the ability and the desire so to regulate the acts of

his department that it will be fair to all concerned. Honesty also includes stability and that steadiness in belief and action which gives the impression of security. Honesty in the accountant not only means that the company's money is safe so far as it concerns him, but that his work will bear the stamp of sincerity. Honesty is of prime importance.

Individuality means standing upright on one's own feet, not blindly following the ideas and work of others. No machine was ever made, nor system of accounting planned, that is, invented, without in some way showing the personality of the maker. This is so true that it is frequently possible to identify the maker by the workmanship.

No system of accounting can be placed in a man's charge without sooner or later showing marks of his own particular treatment. It must, in the nature of things, eventually become an expression of himself. It is not too much to say that if he is positive in action, his work will probably be of the same character. If he is changeable and drifting, his work will bear the earmarks of it. A strong individuality inspires confidence in the strength, resourcefulness, and ability of the possessor to do without precedent if necessary. Individuality is so necessary to the accounting of a corporation that it should be fostered when found, and not be lost amid red tape or custom.

Tact is patience, waiting, understanding conditions, and bringing them about. Tact is so important that native or acquired ability will be largely or wholly neutralized without it. Tact in handling men, in explanation, in contact with the public, in hundreds of ways, is needed in the make-up of a man almost as much as a just cause. Tact will succeed often when force or the authority to force will fail. There is no gain-saying its importance.

The last of the four requisite qualifications in the successful accountant is imagination. At first glance, imagination may be considered as outside the "dry work of business," but a

little thought will show that it is not. In its last analysis, imagination is simply the momentary translation in the mind of ideas into realities to judge effects. An accountant most certainly needs this talent, for it permits him to plan a system, just as an architect plans a house, with it complete in his mind, while he is arranging the details to bring about the complete system. Imagination may be intuition or it may not. Be that as it may, a man endowed with it makes fewer failures than one who is so practical that he cannot place himself in the future or in the past as regards figures or the realities for which they stand.

Some of these enumerated requirements are such that when obtained they establish the standing of this officer in the community. Especially is this true of the smaller companies where he meets the public constantly, and the public understands the company through its contact with the representatives of the company. Therefore, his standing, his reputation, is no small matter.

The work of an accountant has reached a plane where something more than bookkeeping is required of him. He should, as a part of the term "ability," understand the operation of a railroad, not as an ex-operating man, perhaps, but certainly he should have a grasp of the theory of operation. The operating manager and he should work so together, and he should be acquainted with the operating conditions in such a real way, that he will understand the viewpoint of the manager as well as the advantages and disadvantages under which the men work from whom he receives information. He ought also to see the construction of the property and to understand it, or at least to know the theory upon which it is planned.

The legal department is another fruitful field for him to understand; of course, not as a lawyer, but to know its routine and its relation to the rest of the organization. Nor is it too much for him to know the theory of banking, as many of his duties bring him into close touch with it.

In other words, the successful accountant is a well-rounded man. Remove from him the word "bookkeeper" (who is a recorder only), and find him with the proper qualifications, he becomes an important officer of the company. His understanding of causes, through his experience with them, will make the work of his department clearer and more to the point.

He is essentially a quizzical officer; he it is, of all the officers, who is most called upon to continually ask "Why?" and "What for?" the replies to which will make his analysis of accounts and causes and effects of the utmost value to the operating manager or the president.

The position and work of an accountant are peculiar. His point of contact with every department is the same. Nothing can be done by any department without in some way reaching the accounting department. Everything done, each additional expense and every saving, affect the books of the company. The whole effort of the organization focuses upon this department, and from it comes the story of the effort. Therefore, the officer at its head needs all the training and level-headedness possible.

He is a "bookkeeper" no longer; his work is larger and very important. This is being more and more recognized; and where this is so, there is being attracted a higher class of men to the work, which cannot but result in a clearer understanding of conditions, with the resultant benefits to all concerned.

A very eloquent example of how intelligent accounting may assist toward success is given in a history of the Carnegie Steel Company. It shows how the details worked out by the accountant permitted the operating manager to make quick and accurate changes in both manufacturing and selling plans. This illustrates a case where the accountant was more than bookkeeper and had a direct influence upon the success of the company.

Very many successful presidents and managers of to-day have been such accountants as have been described. They

have not been content to keep accounts only, but have filled their office to all its important limits, and in a positive way. Their preferment came as the recognition of their grasp of causes and effects.

A future is open in this department to men who will see the work and know what they see; who will understand and act upon the certainty that honesty, individuality, tact, and imagination are as much a part of their equipment as the knowledge of the difference between a debit and a credit.

CHAPTER XIII.

THE ACCOUNTING OFFICE.

By including this chapter I have been actuated by two reasons. The first is to say all I can to dispel the custom of believing that any room or series of rooms not needed for other purposes will do for the offices. The second is to show some fallacies in office arrangement and to consider the mental attitude of those who work within them.

To one who has had the opportunity of visiting many street railway offices — accounting and operating — there comes the thought, "How do these offices appear to other eyes than my own?" And how do they appear to those who have built and arranged them as they are, or, in other words, to those who are responsible for the present conditions under which the companies meet their public and their visitors from other localities?

At first thought, it would seem that all railway offices would, of necessity, be more or less alike — that the nature of the business would make them so. But actually this is far from the fact. Individuality plays an important part, and it is not as far from the truth as it would seem to say that the general condition of the company and property can, in a measure, be gauged by the condition of its general offices.

As an instance, not long ago the writer had occasion to visit the offices of an important railway company. After entering a large and splendid building, which was entirely devoted to the company's purposes, he could not find any sign or directory of the location of the different departments, nor any one to give such information. So it became necessary to try doors — without signs upon them — until some one was found to

assist in the location of the officer wanted. Now, this company is in a prosperous condition, but its operation is more or less "happy-go-lucky," and so, it developed, is the office.

It seems that a company would always serve its own interest by thinking how the public is going to find its way around when bent on doing business with it in its own home.

The most pronounced discord in office arrangement is the habit of piling packages and books under desks, on the top of cupboards, on window sills, and in other prominent places. These packages are usually of various sizes and dusty, and they are nearly always subject to doubt as to what is in them. I call this a habit, because there is rarely much excuse for it.

Every office has a place for filing records, sometimes not large enough, it is true, but it is safe to say that there is always a corner or other vacant spot into which shelves may be placed for the receipt of whatever it is necessary to save, but which is not valuable enough to file in the vault. Such open shelves are easily hung with roller shades or soft curtains to keep out the dust — the expense is small compared with the benefit derived. Papers so filed should be carefully labeled. This is of as much importance as the labeling of a book upon its back, frequently more so.

This brings up the relative merits of filing papers in packages wrapped and labeled, or in compact pasteboard boxes labeled on the ends. It is a subject for each company to decide, as the element of expense enters into the question; but special boxes have advantages in the matter of space filling and ease of handling which sometimes offset the expense.

One is also led to wonder, while on the subject, if the office manager has ever gone through his office and opened every drawer of desks and tables as a sort of inspection tour? There are matters always covered up, and the result of such an inspection will be a surprise. Some time ago the writer made

an examination of a property whose office was in such condition that little headway could be made until the office force took a half-day off and got the safe, vault, and desks in something like order. I am convinced that this example is not a wide exception, but only in degree.

The first excuse for confusion is lack of time and lack of office help, but it is a rare case where the habit of proper filing takes more time and more help than the lack of it. The habit of confusion is a bad one, and usually, if not always, the office manager is the one at fault, for it is well understood that his ideas govern the methods of work. The habit of system and precision is easily formed, and in the end it saves money to the extent of ease in locating papers, and it is not infrequent that a clean and well-regulated office is an asset of the office manager. An instance is known where an orderly office — all else being equal — gained an invitation to join another company to an office man who, with the impetus secured from the new connection, coupled with his orderly habits, has since materially widened the space between himself and the man with whom he was compared.

It is not necessary to enlarge upon or discuss the relative merits of cleared flat-top desks and filled roll-tops, for each may be cleaned or may be filled. Each has advantages of its own, but it is well to touch upon the subject that in plans for new offices consideration may be given it.

It should be borne in mind that the office is not simply a place in which to do the office work of the company; it is also the place where the public is received, and it is an important point of contact where courtesy and cleanliness will have much to do in solving or dissolving difficulties.

There is a well-known saying that a man entering an office in clean clothes, clean linen, and with a business-like demeanor, will always receive more consideration than the one whose linen is soiled, and whose face is unshaven. Can this not be applied in reverse order? I think it can.

Many companies at the present time prohibit smoking on the part of the office employees, for the reason that it is not only offensive in a closed room, but it is expensive in the point of companies' time, which is consumed in keeping the tobacco lighted and picking it up and laying it down. But the cuspidores for the chewers are just as large and numerous under feet as ever.

From boyhood to be "businesslike" is impressed upon the youngster as one of the best targets at which to shoot his new ideas; but later, in the anxiety to get results, office appearances are liable to be overlooked as part of the definition of businesslike.

Maybe it is not fair to compare the order of one's home with one's office, but it is worthy of some thought, and at any rate the office is the home of the company.

It may be said that these things do not have any effect upon the success of the company; but if proper consideration is given to the mental attitude of those working under badly arranged and careless conditions as compared with those orderly and accurate, I am sure the essential *esprit-de-corps* will be more largely developed in the latter and the results will naturally be better. After all, the result is the gist of the whole effort.

In addition to the arrangements necessary for the proper meeting with the public, provision should be made that the employees coming to the office may be received in an atmosphere of fairness, and frankly. It should be assumed that by the appearance of an employee at the accounting office he has business there, and he should be received by a clerk who understands that it is a part of his duty to be courteous. When the clerk cannot satisfy the inquiries brought to his window, the accounting officer should be so easy of access that the matter can be satisfied authoritatively and at once. The demeanor of the clerks to the inquirer is important for the reason that no good can ever come from willful aggravation, and some

of the most surprising results have grown from small and unintentional beginnings.

To sum this whole subject into a paragraph, the office should be well and conveniently arranged; it should be clean; and a feeling should prevail that accuracy is paramount and that courtesy is an essential element.

CHAPTER XIV.

TAKING THINGS FOR GRANTED.

It is undoubtedly true, as some one has said, that genius is only another name for taking pains; and so it seems, with a contrary result, that failure is often spelled "taking things for granted."

From the standpoint of any one who tries to be accurate in his work and the work of his office, and also to the one who is depending upon others for information upon which part of his plans are to be based, there is little that is more aggravating than finding errors which change the probable result, especially if the excuse is given, "I took the figures for granted as being correct."

Taking things for granted is not easy to pardon, nor is the rush of business a good excuse, because the business of operating street railways is so thoroughly interdependent in all its parts that a looseness in one is sure to affect the others.

Effects have their causes; and, in looking for what could cause the carelessness which is the subject of this chapter, the lines have led to conclusions rather different from those which first impressions would give. That is, the first thought is that the element of "don't care" is so predominant in the make-up of the clerk of to-day that taking things for granted is part of his nature. Yet there are others who, in the commendable desire to be accurate and escape the dangers of mistakes of assumption, go to the other extreme, popularly called "old maidishness." This usually means that the person so afflicted is never satisfied that anything is right, even after many times checking. This condition, while usually bringing forth accuracy, nearly always results in a clogging of the machinery of routine

to such an extent, that to get results in time to be of any service, estimates have to be made, the evils of which may easily be as great as inaccuracy. Therefore, while the dangers of the extreme, called "taking it for granted," and the other extreme, called "old maidishness," seem to be almost equal, there is a middle ground governed by common sense and carefulness which will guard against inaccuracy and estimation. Common sense is satisfied with that checking which is once and careful rather than numerous and still doubtful.

However, every subject must have its two or more sides, and the side of this subject usually talked about is that the clerk is to blame for the condition. But clerks are of a station in life that does not wholly and on purpose get on the wrong side of a subject, especially where future welfare is concerned. As exceptions are naturally a part of all general statements, they are not considered in this chapter, the desire being to reach as much as possible of the subject. Then, of this other side, let me present the following as a part, at least, of the causes of which we know the effect so well:

A custom exists in almost all large businesses, which, in a measure, spreads its effects through the whole service. This is sometimes called official dignity and sometimes red tape. Be that as it may, it usually results in the condition that the personal contact between the head of the department and the subordinates is so small that the personality of either does not enter very far into the arrangement. In other words, it is usually considered somewhat undignified for the head of a department to be on such terms with his employees that his personal interest may become a factor in their work. It is true he occupies his position for the purpose of treating with the larger matters of his department, and in some measure to be a part of the president's "cabinet," but he is personally responsible, or should be, for not only the work of his department, but also its quality, be it good or bad.

Individuality is such an important factor in success, personal

or corporate, that it seems as though everything should be done to bring it forward. It must be seen, however, that the present system of work, especially office work, is getting very close to being machinelike; that is, according to a pattern. This is very easily verified by reference to the office practices of steam railroads, when we compare present methods with those of ten years ago. To-day a clerk needs little more than a knowledge of the station list to step from one company to a like position with another.

The papers of the day are full of anxious articles signed by men of large affairs who express their need for young men of capacity, yet it requires an encouraged will power for a young man to break through a pattern-made clerkship.

This condition has everything to do with "taking things for granted," because the head of a department, by leaning upon his chief clerk and going little farther in personal contact, is taking it for granted that his clerks are all alike and made after a pattern. And here comes the explanation of the paucity of good material. The average boy goes through school a part of a large class. From school he goes into a large office again as one of many, and with little opportunity to learn the business far from his own desk. He comes, in time, to be an according-to-rule clerk, and there he stops. This is the reason so many successful men are known to have climbed from small and obscure offices, because, as a part of a small office, they learn the principles of the whole business instead of that of one or two desks only. Surely the material is in the larger office as well as in the smaller, but through lack of personality and inspiration from the head it is very hard work indeed for a new clerk to be trained to grasp the importance of even his humble desk. He quickly learns to "take things for granted," because it is the easiest thing to do; and whatever serious views he may have had at the beginning, he cannot stay inspired very long when depending upon himself. It seems to him a very long way to climb from his desk to that of the

chief clerk, and the head of the department is so far away — and so, usually, is his dignity — that he almost seems to be of another and more fortunate race of men. Then there comes the stage of thought, which is also much abused in newspaper articles, viz., watching the clock. Of this there is much, no doubt, yet it is prompted by a feeling, it may be of retaliation, that springs from the dry side of life. Right here let it be understood that I am not defending the careless clerk, but trying to get at the causes from which the pernicious effects arise.

To a clerk raised in such a condition, the importance of the little things, which make the continuity of records and affairs, seems rather unimportant; hence, "taking it for granted" is easy, with the natural result that the larger things are not seen in their right perspective.

With this line of reasoning, it seems most important that more attention should be given to the proper training of clerks, not merely to show them the evils of watching the clock nor to explain how very important it is not to take anything for granted, but to go farther and spread one's own interest and enthusiasm into the work by getting into such personal contact that the work will be done well, as much for the work's sake as it is for the amount of salary agreed upon. This contact need never reach given names and the like, but it may easily be made a relation pleasing and helpful to each party to the arrangement.

Nearly every successful man of to-day will say that his climb upward was helped by some one higher up giving him advice and explanations. But, if it could be definitely learned, it would be surprising to know how large a proportion of this assistance came through friendship from men of other companies rather than those in the one with which he was connected. How very much better it will be if this advice can come from nearer home.

Where it once becomes a custom to take figures for granted,

there is sure to grow up a mental attitude which is a positive detriment to the service. Any one who has the habit is a weak spot in the fabric of business, and this weakness will some time show itself in a manner that may affect the reputation of the head of some department or the welfare of the company itself.

This is not an idle statement, but a serious fact. Defalcations can be covered up if the clerk whose duty it is to check the work takes this or that figure for granted. This indicates how simple a matter it takes to affect the standing of the whole company, as well as the reputations of those leading up to the trouble.

It is absolutely true that any clerk who is conscientious and desires to have his work accurate is not liable to fall into this error, but that there are others who are not of the same frame of mind is also true. I am convinced, by personal observation and experience, that a large proportion of carelessness, especially in office work, springs from a lack of personal training by some one higher up. A new clerk is nearly always turned over to another clerk to "break in," and if he does not make any bad mistakes those higher up take it for granted that he is filling his place and doing his work. Now and then there appears a story by a school teacher showing the peculiar understanding pupils have of sentences taught them orally. And there is also a game played by grown-up children where a remark is passed from one person to another in an evening gathering, the result never being the same as the original. This is the way a newly made clerk is liable to get his information, and while correct in some points, parts of the original impressions stick to him. Therefore, a new clerk, broken in by a careless one, may absorb the teaching of watching the clock, taking things for granted, and the other methods not good for the company's service or his future, yet his intentions may be all that are good. So, without the personal contact of those above him, he starts out with the methods which call down

upon him the phrases of the man who is looking for competent assistance.

It is only fair to acknowledge beforehand that the head of any department is a busy man, and thoroughly occupied with the load he is carrying and the needs of his position; but after all is said, he is dependent upon his clerks for the routine which leads up to his larger duties. Thus, to put his interests on a materialistic basis, he can well afford to see that his clerks are properly trained and in harmony with all that is best for the company, himself, and their future. They will respond by a very large percentage to the new understanding they will have of the work, and the result will be as gratefully received by them as it is by him.



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